Drawing Landscape Narrative

N Graham ¹, N Galluzzo², P Allan ², J Melsom² ¹National Parks and Wildlife, Byron Bay, NSW ²University of Technology Sydney, Sydney, NSW

(Drawing Landscape Narrative: Interfacing between the cultural, ecological and habitat imperatives of Tallow Creek ICOLL watershed)

'Tallow Creek is a very special place for me, as a child I would come to visit the Creek with my mother and Aunties, to gather and hear their stories about our family and ancestors. Stories about how they grew up and lived on Country, connecting with a system that is determined by cycles as it shifts and moves with the seasons through fishing, eating, and playing, to feel present and enjoy Country. Tallow Creek is our base and home, with embedded generational links to a wider context through memories about history, intangible elements, on land experiences and sensorial feeling. It's a place where despite all the changes, I can feel and sense that this is my Country, a sacredness that nourishes my soul and wellbeing through on Country experiences by just watching and listening.' (N. Graham 2022, pers. Comms., 15 April)



Fig. 1. Still from the film 'Our Special Place - Tallow Creek' by Nathan Galluzzo, video link: https://youtu.be/rDVAOtwlMfs

INTRODUCTION

The project 'Drawing landscape Narrative' began with a summer elective in late November/early December 2019, 'Going Coastal', a 10-day intensive study run by James Melsom and Penny Allan (UTS) that involved measuring, surveying and simulating the processes of coastal erosion, estuarine morphology, urban development and sea level rise at Tallow Creek, Suffolk Park, NSW. This research would eventually lead to the extended Drawing Landscape Narrative research that seeks to reconcile the scientific understanding of complex ICOLL environments with the history, knowledge, and practices of care of dynamic local communities.

During this initial study, a combination of historical data, on-site fieldwork and local input from authorities, residents, and experts, the work investigated the function and performance of the Tallows ICOLL, with a focus on vegetation, ecologies, hydrology, geology, sediment dynamics, wave motion and interactions with the ocean. Engagement with local community groups over the material provided an insight into different stories and narratives, which sparked personal reflections about the strong cultural values and connections tied to Tallow Creek.

The elective concluded with a presentation/ exhibition to Byron Shire Council. Feedback suggested that managing ICOLLs can be challenging due to the conflicting interests of multiple stakeholders and the overwhelming focus on scientific understandings of site. Council's policy and legislation in managing ICOLL's seeks community engagement and how collaboration might enhance decision making to allow for a holistic and three-dimensional view that builds relationships between areas of knowledge, of system dynamics and interconnections to forge lasting relationships to establish alternate future management mechanisms. However, as a result of the June 2019 fish kill event, triggered by the mechanical opening of the Tallows ICOLL, and the distress it caused, Council acknowledged that it needed to find ways to better connect with people and community who have a deep personal connection with Tallow Creek.

This research project attempts to understand these issues more deeply and develop alternative and more meaningful ways of communicating with stakeholders and local communities. It functions as a process of translation and negotiation between the specialist scientific incident reports, historical documentation of local coastal transformation, ongoing beach and dune restauration efforts, residential waterside community experience and cultural history and landscape management.



Fig. 2. Presenting findings and discussion with Byron Shire Council member Chloe Dowsett (Photograph by Hayley Mulder, 2019, Council Offices).

ICOLL ECOSYSTEMS

Intermittently open and closed estuary or lakes (ICOLLs) are highly complex in their hydrological adaptive nature. Making up over 60% of the estuaries in NSW that exhibit an 'interaction between wave processes, fluvial and tidal systems' (Stephens & Murtagh 2011), these environments are typically erratic and comparatively variable, 'often characterized by their transformation during storms or prone to recurring drought' (Helman & Tomlinson 2015). The balance of roles that wave energy, fluvial discharge, tides, erosion and deposition each contribute to forming ICOLL entrance conidiations and different stages of opening and closing sequences of the estuaries is poorly understood, as is their basic geomorphology. (McSweeney, Kennedy, Rutherfurd, 2014).

These environments are undergoing intense pressure with the acceleration of climate change and increasing urban density along their margins. Wetland loss and increased flooding are expected to increase due to sea level rise. Within ICOLL's, issues such as erosion, water stratification of high dissolved oxygen levels resulting in fish-kills, build-up of organic matter, tendences to over- or denitrification, and flood inundation of settlements close to coastal waterways are all expected to increase in frequency and severity. (David, M., Jackie, S., Michelle, C., Kelly, L. & Kathleen, F. 2021).



Fig. 3. Fish kill in Byron Bay's Tallow Creek June 2019 (The Echo 2019).

The increasingly variable levels of rainfall, coastal storm events, and varied resulting beach erosion and deposition cycles conflict with the settlement patterns affected by high waters. The complexity of these aspects within an ICOLL environment has lead to increased distress, miscommunication and misunderstanding within the community, and resulted in the local government identifying the need for alternate means of communication and collaboration, which could play a role in future decision making.

CONSULTATION

As a result of this complexity and in the face of accelerating climate change and social and urban pressures, stakeholder consultation is key. In the absence of alternatives, Councils tend to rely on methods of engagement such as surveys, websites and scientific reports which sometimes fail to identify the special qualities of a place or the values of community members and Indigenous owners of the land. These design approaches may include: 'a shallow analysis, a possible survey of client requirements and expectations and for information only level of public consultation – often only informing certain members of the public about the already agreed-on design direction' (Marques, Mcintosh, 2017). This view is further supported

by the Tallow Creek Fish Kill ICAM Investigation which concludes that current practice lacks an effective integrated catchment management approach which identifies all social, economic, cultural and environmental values of Tallow Creek.

In addition, many standard consultation processes tend to have a particular end in sight — 'to be tailored to inform a specific decision or an annual or long-term plan, or resource consent. Often the modes of engagement are limited, such as written submissions, public meetings and hearings that are limited to submission periods, requiring written feedback within specific public exhibition periods' (Tweed Shire Council, 2019).

Engaging with various types of uncertainty is an essential new skill for a climate-impacted future. The challenge for local change is to shift away from the typical council consultative processes, however councils are often nervous or reluctant to adapt due to the uncertainty about the timing and scale of climate change impacts, and hesitant about which options they should be discussing with communities (Anderson, Singh, 2020).

Councils have faced community rejection for planning provisions aimed at mitigating risk from climate impacts, engendering a fear of pushback from the public if they attempt to introduce hazard mitigation measures. This is not a reason to fail to act, but rather indicates the need for early and ongoing engagement to build trust, understanding and a sharing of ideas. Detailed questionnaire surveys have been determined unreliable or ineffective due to the many_cultural and logistical barriers they generate, including the limited agency afforded community members The resulting ability to determine the quantitative and qualitative impact of climate change on communities is inaccurate and misleading (Anderson, Singh, 2020).

While ecological models and community data are essential, they only generate a partial understanding of the required values to make informed decisions. Preferences of the decision-maker can lead to bias, all the more where an abundance of possible data sources and leads to different interpretations and implementations. The resulting decision-making process can lack accountability and transparency (David, M., Jackie, S., Michelle, C., Kelly, L. & Kathleen, F. 2021).

Councils have an important role in communicating information around climate impacts and adaptation strategies in a manner that is easily understood and does not generate alarm, while also enabling the community to impart their knowledge and experience (Barth, Bond, Diprose, Orchiston, Simon, Stephenson, Thomas, 2020). This vision is expressed in the *Arakwal National Park Plan of Management* that considered the importance of input from the wider community through stakeholder workshops where both science and cultural knowledge should be blended together in order to meet both legislative and cultural obligations (Edwards, 2007). This can help build a collective understanding and readiness to be involved in adaptation discussions.

PRECEDENTS

In the case of communities that have a strong connection or historical intimacy with their lands, as with many Iindigenous and local community groups, 'the health of the people may be closely related to the health of the land' (Fikret, B. & Helen, R. 2013). A notion captured in the Australian Indigenous maxim 'Healthy Country, Healthy People' which describes how communities build resilience through their response to shock and stress by actively developing parameters through capacity building and social learning within landscape.

This ability to co-produce knowledge requires a bridging between organizations to incorporate multiple levels of participation. This may take the form of a process that is nonlinear involving dynamic interactions between a person and their social/ physical environment that supports and strengthens *renewal cycles*, allowing for memory, cycles, disturbance events, drivers of change to be revisited through viewing the layers of information, complexity, feedbacks, nonlinearity, and scale all together.

Research precedents that deal with multiple stakeholders to develop community participation in council situations adopt specific parameters based on the context and dynamics between two groups coming together, whether Indigenous or non-Indigenous. The precedents also highlight how values become an integral component allowing communities to work in partnership, these values are shared across research, employing a language where collective discussions and visual tools can be used to empower and facilitate reflection and participation. This is seen through collaborative projects which foster a sense of experiential learning, place making and teaching between multiple groups through incorporating the mode of sensorial engagement such as drawings, film, sculptures and site visits.

Sharing knowledge in this context is introduced through creative practices that interweave stories, perspectives, and associations to land and culture. The application of these tools allows for participant led outcomes that allow them to take the role of both facilitator and translator. These approaches consider an inclusive experience, a transformative journey through engagement in critical dialogue that builds strong relationships through stories recounted over visual tools that connect and teach. Stories in this context help establish place and purpose, being told at various points in time, linking to national, family and personal ties that consider personal commitment to landscape and the importance of reflectivity. This technique builds discussion through a shared medium where knowledge from different sources comes together to coproduce or re-synthesise knowledge.

These techniques also support the identification of the cognitive and identity dimensions of social-ecological systems. The essence of everything that's living and nonliving is woven together through a shared interrelationship where the health of the landscape is linked and becomes deeply connected with the health of its traditional custodians (Marques, Grabasch, & McIntosh 2018, p. 6). This is referred to as a *land health concept* where society and land are seen 'collectively as an organism where the health is connected with the total environment..., social ecological health and resilience are independent' (Fikret, B., Nancy, D. & Graeme, C. 2012). For example, biodiversity and ecosystem services are inextricably linked

to diversity of species in a system and the ways in which diversity has changed over time, 'offering insights into trends, what niche layer of the system they occupy, populations, foodwebs and the link to ecological and social elements within the system' (Fikret, B., Nancy, D. & Graeme, C. 2012).

This can further provide stakeholders with site-specific information that follow local and contextual knowledge to develop approaches that represent a holistic view which recognise social systems and ecosystems as coupled, interdependent, and coevolving.

THE PROCESS OF DRAWING

The project, using fieldwork and expressive illustrations informed by research, information, storytelling, community groups and science, explores how drawing can be used as a communication and collaboration tool to guide conversations, to transfer knowledge about landscape. The drawing process was embraced by local stewards of Tallow Creek and the surrounding landscape, this being Uncle Norman Graham, an Arakwal Indigenous Elder who works for Royal National Parks and Wildlife and Helen Brown, a local resident and retired Dunecare co-ordinator of Tallows Beach. Their wonderful stories, their connection, and their spiritual bonds with respect to Tallow Creek and the surrounding dunes stem from a deep-rooted connection to on ground experiences through looking, noticing and witnessing events firsthand. The drawings allowed us to talk through these personal reflections that make up both the physical and metaphysical elements of Tallow Creek.

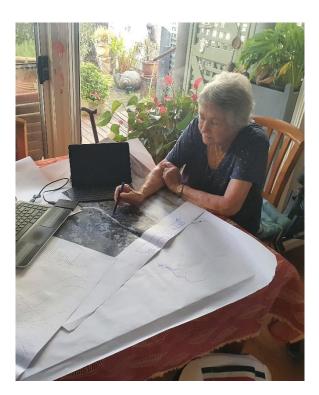




Fig. 4. Left Image - Meeting with Helen Brown, talking through images of the area that she worked with the schoolchildren, connecting her personal stories with the drawings, and enriching the perspective of Dunecare

through certain graphical styles (26 November 2020). Right Image – Meeting with Uncle Norman, speaking through cultural stories from past elders, resulting in thoughtful discussions and collective understandings.

Storytelling is a shared knowledge, some of which is purely observational, consisting of one's intimate knowledge and details about intricate connections within the natural world such as weather, animal cycles, plant species and seasonal expectations. It is a form of archiving which is as fragile as it is linked intrinsically to language, social values and cultural practices (Delaney 2015).

The illustrations were developed through a community led approach where knowledge was shared through focus-groups, open-ended interviews, yarning and other mixed-method approaches with varying degrees of participant observation. The approach was place-specific, supported by a culturally acceptable mode of representation which used visual references such as arrows, circles, colour and pictures overlayed in areas of the drawing. This open dialogue allows members of a community to work through their preferred methods that use 'associated objects that remind me of this time' (N. Graham 2020, pers. Comms., 24 March). This is particularly important when working within the Indigenous space; it requires great sensitivity, time, and flexibility and the discussions and outputs need to enable a willingness for coauthorship. The illustrations document, communicate, record and map lived experiences, natural processes of Tallow Creek and its significance, between realms that establish connections, knowledge and experience of place for all.

Because of Covid 19, virtual platforms such as Zoom and Conceptboard were used to construct a written and graphical platform which mapped weekly reflections. This informed an ongoing dialogue, one that shifted the process of gathering information, collating information and structuring information and instead literally 'drew out' insights to unpack layers of memory, redraw and refine previous layers of knowledge, and to trigger new observations.



Fig. 5. Snapshot of drawing with Norman over Zoom and Conceptboard depicting the movement of fish and the cultural ties with the Arakwal people (24 June 2020).

One such drawing example is seen through 'The Story of the Flathead', a visual and oral narrative that recounts the shared layers of knowledge by Uncle Norman as an introduction to Country, the relationships to water, land, and value to his peoples. The early discussions surfaced the importance of the aquatic life within Tallow Creek, specifically the flathead, holding cultural ties that govern the movement over land, symbolic links to teaching, to wider narratives of site, identifying seasonal changes and times of exchange when the Creek is open or closed.



Fig. 6. The Dusky Flathead, watercolour painting revealing a deeper understanding into untapped narratives of Tallow Creek.

Over a period of 6 months *The Story of the Flathead* evolved through the drawing process. The process used to reveal the importance of site and heritage of this story with respect to many other stories.

The early conversations with Uncle Norman identified the characteristics, locations and essence of Tallow Creek. The drawing below (the first sketch) conveys the mouth of the creek in relation to the fish, the exchange between two systems (the creek and ocean), the surrounding habitat on the banks and the interconnection of the flathead with other aquatic life (e.g. prawns, crabs, mullet). Depicting the flathead

spatially, as quoted by Norman 'using patterns like those dots, it reminds me of that wake of the fish, when you get a lot of small fish and you get that ripple wake' (N. Graham 2020, pers. comm., 08 April).

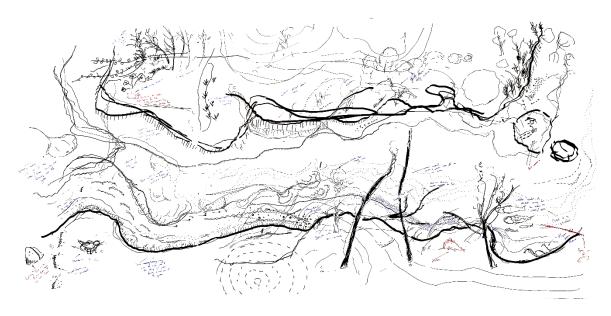


Fig. 7. Preliminary sketch from the discussions with Norman, capturing the angle of viewing the Creeks mouth during times of opening from the northern banks.

The drawing continued to develop in greater context over rounds of validation through Conceptboard where the use of as arrows, circles, colour and pictures were overlayed in areas of the drawing, Norman describes 'the flathead, they come up and they sort of rest along the mouth, they would be on the Southside near the sandy spit around the corner.' Where their habitats lie, 'the flathead come and rest, when it (Tallow Creek) gets stable they come in and sleep.' Between people, 'movement is very important around the opening times (of the creek) the movement of people and the flathead in the sand where you can easily see them and sneak up to them and spear them before they see you, that's how we connect to the flathead when the mouth of the creek is closed'. Of things and how it's all connected, 'things that relate to that activity and that sacredness like pippies on the beach. That seasonality, that exchange and linkage with not just the water but also the species between them in the cycle' (N. Graham 2020, pers. comm., 10 April).

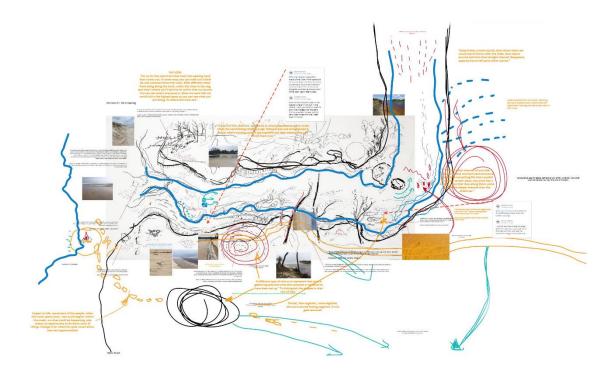


Fig. 8. Snapshot of drawing with Norman over Conceptboard, as we continued to overlay information about the flathead and links to wider narratives using visual references.

These links to wider connections where again redrawn, highlighting the relationship of movement between habitats and people in landscape, how each one journeys through the vegetation, dunes, mudflats and the ocean. The use of patterns and figures connect stories and identity from a cultural past was used as visual references in spatialising Uncle Norms descriptions of 'when I look at this and see it, I see the trees, that's those areas, and particularly that circular bit for me represents the meeting place of the creek, that's where everyone moved off to gather' (N. Graham 2020, pers. comm., 10 April).



Fig. 9. Second sketch from the discussions with Norman, capturing the ties to cultural activities of fishing, spearing, netting and cooking.

As we continued to iterate through Conceptboard the stories that were shared highlighted the incredible richness of this place, of the fish coming in and out, this exchange of species and array of movement beneath and above the water's surface. Described by Norman as 'when the Creek opens movement occurs, and when it closes a new cycle begins.' These cycles also highlight ties with the land how the Arakwal people connect and use the creek, how they journey through space, how they are influenced by the landscape changes. The cycle therefore holds values that are 'living', the drawing looks to understand those shifting values and its relationship between people and its wider context, as 'the creek lives in a circle that's connected and must consider the wider circle which it lives within' (N. Graham 2020, pers. comm., 15 April).

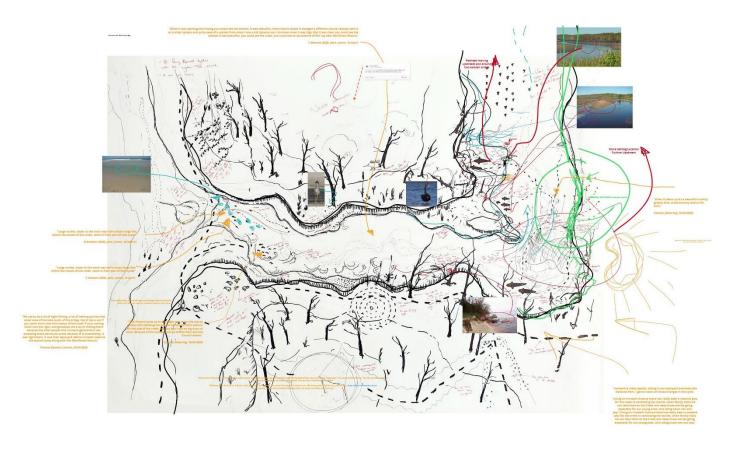


Fig. 10. Snapshots from the second iteration after clarification, feedback and drawing together with Norman.

This cyclical, iterative and immersive process allowed us to develop deeper understandings of relationality and reciprocity. This reflective and meditative practice of talking, looking and drawing allowed us to see the changes and iterations playing out over time and space. Live sessions allowed us to meet regularly and work through previous versions of the drawing in order to updated and add greater richness.

DISCUSSION

The research identified key ideas through reflecting on the method and practice of drawing as a way of thinking, a tool that guides conversation, translates insights and understandings and its applicability in future value-based approaches in restoration and ongoing management strategies. These ideas where shared amongst the members that contributed to the research which were summarised as per the following:

The drawing process surfaced hidden voices, creating links over time and space where multigenerational sense of knowing was brought for-ward to acknowledge lived experiences between the past, present and future. It's being able to record information and reference traces through history where relationships are weaved in stories from the elders. 'It's that way of re-immergence, re-remembering and re-learning' (N.Graham 2022, pers, comm., 01 April), as it allows cultural knowledge and information to be pulled together that prompt re-discovery and re-connection with stories, Country and others. This allows for further collaboration and sharing between other Indigenious members to layer and add to wider stories.





Fig. 11. Sand painting by Auntie Delta Kay titled 'Currents of Tallow Creek' at the exhibition 'Our Special Place – Tallow Creek'. Using natural elements sourced from the landscape of Tallow Creek/Beach (pipi shells, sand, burnt bark, eucalyptus seed pods, and ochre (orange) from Broken Head) translating the mouth of the creek, movement of water and aquatic life, the three campgrounds, and places of gathering to eat and share stories. Described by Delta as 'I saw the artwork from Norm and in a similar way related to the connections that we have with water, land, fish and cycles, that's what I can see and what I'm showing here' (D. Kay 2021, pers. comm., 9th March).

- The drawing process helped foster a common starting ground, an openness, vulnerability, respect and trust amongst Indigenous and non-Indigenous stakeholder groups - this allowed for stories to immerge through a reciprocal understanding that came from respectful listening and learning where information was shared over open feedback sessions that was not bound by structure or process.



Fig. 12. Stakeholder Workshop (13th July 2020) with representatives from Bryon Shire Council, Arakwal Community, National Parks and Local Residents of Bryon Bay at NPWS Meeting Room, Norman Graham speaking through The Story of the Flathead.

The drawing process through the method of mapping and communication successfully brought together Uncle Norm's stories and land recordings in a way that would allow for the exchange of experience, perspective, and world views to be shared with non-Indigenous stakeholders and community groups. Improving cultural learning tools through a formed relationship where stories, meetings and drawing were pulled together overtime and utilised as a legacy of someone's information that create opportunity to be accessed and referred to by others within a considered cultural context. The acknowledgment of Aboriginal Law holds traditions for social interaction between cultural groups and over Country, continuing the passing of knowledge from Elders to broaden the scope of connecting with, protecting values and appreciating Country.



Fig. 13. A view from within the first room of the exhibition 'Our Special Place – Tallow Creek' (at the Lighthouse Cottage, Byron Bay) featuring audio visual presentations, drawings and sand paintings from Uncle Norm and Auntie Delta. Here visitors from Byron Shire Council and the wider community were encouraged to look, listen and reflect through the exhibitions immersive display of material where discussions were had at the conclusion of each tour to record what people resonated with or learnt.

- The drawing process empowered participants to own their knowledge for themselves through the integration of unique visual styles of translation. This made it visually easy to see elements, make modifications in real time and give a sense of identity and self-determination where layers of self-reflection and awareness are added.
- The drawing process strengthens park management in using spatial information to suggest sites of acknowledgment in how activities are remembered and continued in a wider context. Allowing for growth to practice culture and accessing Country such as cultural camping that offered opportunities to be on Country. These references to past experiences and the respective applied management in seeing those relationships and knowing wider links in connecting with landscape are safe, such as fishing, walking through the beach aid in the understanding and importance of interconnectedness between community and environment.

- The drawing process was used to establish potential visions for future Council frameworks in collaborating with a wider audience that explore, test and foster tools for different frames of understanding and awareness. Taking on a participatory planning strategy through sharing and listening over long time periods that can be integrated in current planning policies that pay respect to distilling a holistic view where decision makers can refer to a program that represents stories and nurture's collaboration amongst wider community groups.
- The drawing process revealed the natural process, nuanced system diversities, the rate of change and the essence of a landscape through subtle representations that illustrate wave action, runoff, wind direction, tides, levels of sedimentation and links to ephemeral elements. This created a space between a durational and contemplative involvement in landscape where both tangible and nontangible elements are linked to seeing everything in between in recognising time.



Fig. 22. The artwork Series 05 - Tallow Creek 'Cycles' relates to the ephemeral nature of the Creek, working with the atmospheric qualities of site such as light, colour, texture, details, flows and system diversities at a human scale. The series unpacks the relationships of 'water and life, it's about revealing the way the environment works so it's not hidden in the ground' (Kombumerri & Tyrell 2020). Its 'having that joint sharing and being on Country, caring for County, and seeing Country easier' (N. Graham 2020, pers. comm., 15 June).

CONCLUSION

This research could provide an opportunity for adaptations and enable future work to arise from systems of knowing or personal and cultural knowledge that are expressions of the landscape. It encourages us to not only think differently about the tools and techniques that might be available for more inclusive and adaptive stakeholder consultation processes but to consider the importance of narrative. Telling a story about one's relationship with a particular environment is a wonderful way to express and pass on deep connection, experience, and knowledge with others.

As described by Uncle Norman:

'this has demonstrated that getting together and going through the process can get people's stories out to a wider audience — you can hear the stories of my Aunties years ago — and to be passed on, to be able to come back to the drawing a week later or a year later and you'll hear more, it's a way of doing these things which has a good outcome for everyone, whether its' me, the mob or the local community, drawing allows us to enter into new relation-ships' (N. Graham 2021, pers. comm., 12 January).

A values-based approach might include a three-dimensional lens that better documents, engages, promotes, and respects the complex relationships that exists between stakeholder groups, cultural, belief systems and values to better understand and communicate 'working with the land, and how the land works with us' (B. Bingial Brown 2021, pers. comm., 9 March).

REFERENCE

Anderson, T. & Singh, H. 2020, 'Participatory methodologies enable communities to assess climate-induced loss and damage', *Asia-Pacific Network for Global Change Research*, India, pp. 132- 140.

Barth, J., Bond, S., Diprose, G., Orchiston, C., Simon, K., Stephenson, J., Thomas, A. 2020 'Engaging with Communities for Climate Change Adaption introducing community development for adaption', *Policy Quarterly*, vol. 16, no. 2, pp. 35-40.

David, M., Jackie, S., Michelle, C., Kelly, L. & Kathleen, F. 2021, 'Using Decision Analysis to Integrate Habitat and Community Values for Coastal Resilience Planning', *Estuaries and Coasts*, Springer.

Delaney, D. 2015, *Indigenous Weather Knowledge*, Language, culture and environmental knowledge, Bureau of Meteorology, Australia, viewed 15 September 2020, < http://www.bom.gov.au/iwk/culture.shtml>.

Edwards, D. 2007, 'Arakwal National Park Plan of Management Sacred ancestral place of the Byron Bay Awrakwal People', Plan of Management, Department of Environment and Conservation, NSW

Fikret, B. & Helen, R. 2013, 'Community Resilience: Toward an Integrated Approach', *Society & Natural Resources*, pp. 5-20.

Fikret, B., Nancy, D. & Graeme, C. 2012, 'Aldo Leopold's Land Health from a Resilience Point of View: Self-renewal Capacity of Social-Ecological Systems', *Eco Health*, vol. 9, pp. 278-287.

Helman, P., Tomlinson, R. 2015, 'On Rising and Falling Sea Levels, Spit Dynamics and an 1872 Survey of Byron Bay', *2015 NSW Coastal Conference*, Griffith University, Queensland, pp. 1-9, viewed 14 January 2020.

Marques, B., Grabasch, G. & McIntosh, J. 2018, 'Fostering Landscape Identity Through Participatory Design With Indigenous Cultures of Australia and Aotearoa/New Zealand', *Space and Culture*, vol. 1, pp. 1-16.

McIntosh, J., Marques, B. 2017, 'Designing for culturally-diverse communities. The role of collaborative, interdisciplinary design-led research', in L. Bravo & M. Guaralda, *The Journal of Public Space*, vol. 2, no.3, pp. 21-30.

McSweeney, S., Rutherfurd, I., Kennedy, D. 2014, 'Classification of Intermittently Closed and Open Coastal Lakes and Lagoons in Victoria', *Proceedings of the 7th Australian Stream Management Conference*, Townsville, Queensland, pp. 1-8.

Stephens, K., Murtagh, J. 2011, 'The Risky Business of ICOLL Entrance Management', (FMA) 2012 Conference Papers Floodplain Management Association National Conference, NSW Office of Environment and Heritage, NSW, pp. 1-11, viewed 13 January 2020,

https://www.floodplainconference.com/papers2012/Kerryn%20Stephens%20Full%20Paper.pdf

The Echo 2019, *Deliberate fish kill in Tallow Creek*, local newsletter, Byron Bay, viewed 20 February 2020, < https://www.echo.net.au/2019/06/deliberate-fish-kill-tallow-creek/>.

Tweed Shire Council 2019, *Community Engagement and Participation Plan 2019-2024*, Local Government Act 1993 and Environmental Planning and Assessment Act 1979, Australia, NSW, viewed 10 September 2021, https://www.tweed.nsw.gov.au/files/assets/public/documents/council/strategies-and-plans/community-engagement-and-participation-plan-2019-2024.pdf>.